

B3

alcohol, an organic acid, and/or a nitrogen source selected from the group consisting of urea, ammonia, nitrate, an ammonium salt and an amino acid.

4. The process of claim 3, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

5. The process of claim 1, wherein said fermenting is via a batch, a repeated batch, a fed-batch, a repeated fed-batch or a continuous fermentation process.

6. The process of claim 5, wherein fermenting is via a fed-batch process.

7. The process of claim 6, wherein a carbon and/or a nitrogen source is fed to the process.

8. The process of claim 7, wherein the carbon source is glucose and the nitrogen source is ammonia and/or an ammonium salt.

15. The process of claim 1, wherein the microbial strain is a filamentous microbial strain.

16. The process of claim 15, wherein the filamentous strain is a fungus.

19. The process of claim 16, wherein the fungus is a *Penicillium* strain.

20. The process of claim 19, wherein the fungus is *Penicillium chrysogenum*.

36. The process of claim 19 wherein the  $\beta$ -lactam is penicillin V.

37. The method of claim 19 wherein the  $\beta$ -lactam is adipoyl-7-ADCA.

Please enter the Abstract attached hereto.